

ABSTRACT

A magnetic assembly for a multistage magnetic fluid rotary seal has a shaft, an annular permanent magnet, at least one pole piece and a radial gap formed
5 between the shaft and the pole piece. The shaft and the pole piece have a plurality of trapezoidal-shaped ridges in opposing, non-contacting relationship forming the radial gap. The trapezoidal-shaped ridges have a flat top portion facing the radial gap and tapered sides that diverge away from the top portion.